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Criteria are presented for implementation in the design and construction of school buildings and facilities so as to obviate hazards to individuals with physical disabilities. Accommodations for the physically handicapped are considered for the following--(1) public walks, (2) parking lots, (3) ramps with gradients and handrails, (4) entrances, (5) elevators or ramps for multiple story buildings, (6) doors and doorways, (7) stairs and handrails, (8) toilet rooms and facilities, (9) water fountains, and (10) floors. (FS)

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DESIGN CRITERIA FOR PUBLIC SCHOOL PLANTS ACCOMMODATING THE PHYSICALLY DISABLED

Approximately one out of seven people in our nation has a permanent physical disability. This segment of our population represents human resources of inestimable value and is of great economic significance to the state and entire nation.[1]

The most common design and construction of buildings and facilities cause problems for the physically handicapped that lessen the social and economic gains now evident in the rehabilitation of these individuals. These architectural barriers make it very difficult to project the physically handicapped into normal situations of education, recreation, and employment.[2]

A recent law enacted by the 74th Missouri General Assembly, Section 8.600, RSMo 1967, relating to public buildings and facilities is as follows:

> Section 1. In all buildings and facilities for general public use and assembly which are constructed in whole or in part by the use of state funds, or the funds of any political subdivision of this state, practical design and engineering arrangements shall be made to obviate hazards to individuals with physical disabilities.
>
> Section 2. The provisions of this act shall not be applicable to any building or facility for which the contract and/or design was awarded prior to the effective date of this act.
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> The effective date for this act being October 13, 1967.

The criteria presented in this publication are intended as minimum standards. They are recommended for use by architects and engineers, and others involved in planning and construction of school buildings and facilities in the state of Missouri, so that those individuals

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[1]American Standards Association, Inc., American Standard Specifications for "Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped", ASA Project A117.1 - 1961, 10 East 40th Street, New York 16, N. Y., p. 3 (Foreword).

[2]Ibid, p. 3 (Foreword).

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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with permanent physical disabilities might pursue their interests and aspirations, develop their talents, and exercise their skills.

A. Public Walks

1. At least one primary walk to each building shall be not less than four feet wide and shall have a gradient no greater than five percent, unless the parallel and adjacent public thoroughfare gradient exceeds such percentage in which case the gradient to be constructed shall conform to the gradient of such parallel and adjacent public thoroughfare.

2. The primary walk shall be of a continuing common surface, not interrupted by steps or abrupt changes in level.

3. Whenever the primary walk crosses other walks, driveways, or parking lots it shall blend to a common level. This refers to a blending of walk and driveway to one surface at their juncture.

4. The primary walk or platform shall extend three feet or more beyond the swing of a door, wherever a door swings out onto a platform, ramp or walk.

5. The walk or platform area outside the primary doorway entrance shall be at the same level as the finish floor line inside the door.

B. Parking Lots

1. A paved or hard surfaced parking area of sufficient size that is accessible and approximate to the facility shall be provided and identified for use by individuals with physical disabilities.

2. At least one walk or ramp both to and from one parking area to a given building or facility, if provided, shall be in conformity with provisions for walks or ramps as given in sections A-2 and 3 and C-1 through 7.

3. Care shall be exercised in planning a parking area for use by individuals with physical disabilities so that they are not compelled to wheel or walk behind parked cars.

C. Ramps with Gradients and Handrails

1. Where ramps with gradients are needed, the slope shall not exceed one foot rise in twelve feet or 8.33 percent rise.

2. Ramps shall have a surface that is nonslip.

3. Ramps shall have closed handrails on at least one side and preferably two sides, that are thirty-two inches in height, measured from the surface of the ramp, and extending at least one foot beyond the top and bottom of the ramp.

4. All outside ramps shall be at least four feet in width, and all inside building ramps shall be either corridor width or a minimum of five feet in width.

5. Ramps shall have a level platform at the top which is at least five feet by five feet. This platform shall extend at least one foot beyond each side of the doorway.

6. Ramps shall have at least six feet of straight clearance at the bottom.

7. Ramps should have level platforms at thirty foot intervals for purposes of rest and safety and shall have level platforms wherever they turn. One continuous ramp up to forty feet in length is permissible where a change in level is three feet four inches or less.

D. Entrances

1. At least one primary entrance to every school building or facility shall be usable by individuals in wheelchairs, and this entrance shall have access to the elevator in a multistory building.

E. Elevators or Ramps for Multiple Story Buildings

1. An elevator or ramp shall be provided in all multiple story buildings (two or more floors).

2. An elevator or ramp shall be provided in all adjoining multiple story additions except where an existing elevator or ramp adequately serves the entire structure.

3. Wherever an elevator is provided it shall be accessible to, and usable by, the physically disabled on the level that they use to enter the building.

4. Elevator cabs shall be large enough to enable a wheelchair to turn.

F. Doors and Doorways

1. Doors shall have a clear opening of no less than thirty-two inches and preferably thirty-six inches when open and shall be operable by a single effort. Automatic doors with hold-open feature are recommended for at least one entrance to the building. Interior doors equipped with closers should have hold-open feature.

2. The floor on the inside and outside of each doorway shall be level for a distance of five feet from the door in the direction the door swings and shall extend one foot beyond each side of the door.

3. Sharp inclines and abrupt changes in level shall be avoided at doorsills. As much as possible, thresholds shall be flush with the floor.

G. Stairs and Handrails

1. Steps shall, wherever possible, and in conformation with existing step formulas, have risers that do not exceed seven inches.

2. Steps in stairs shall have rounded "nosings" and no protruding nosings or abrupt change of surface from face of riser to tread.

3. Stairs shall have closed handrails on each side at least thirty-two inches high as measured from the tread at the face of tne riser. At least one handrail shall extend eighteen inches beyond the top step and beyond the bottom step. Care shall be taken that the extension of the handrails is not in itself a hazard. The extension may be made on the side of a continuing wall.

H. Toilet Rooms and Facilities

1. At least one toilet room for each sex and for each floor shall have space to allow for traffic of individuals in wheelchairs.

2. One toilet room for each sex and for each floor shall have at least one toilet stall that is thirty-six inches wide and fifty-six inches deep, with a door (where doors are used) that is thirty-two inches wide and swings out and with handrails on each side which are thirty-three inches above the floor and parallel to the floor. Where no doors are used toilet stalls may be less than fifty-six inches deep, but not less than forty-eight inches to allow for installation of handrails.

I. Water Fountains

1. An appropriate number of water fountains or water dispensing means shall be accessible to, and usable by the physically disabled.

2. Conventional floor-mounted water coolers are satisfactory provided a small fountain is mounted on the side of the cooler thirty inches above the floor.

3. Wall-mounted, hand-operated fountains of the latest design can serve the able-bodied and the physically disabled equally well when the fountain is mounted with the basin thirty-six inches from the floor.

J. Floors

1. All non-level floor area including ramps and stair treads shall have nonslip surfaces.

2. Floors on a given story should be of a common level, wherever practicable, unless connected by proper ramps.